



# UNITED STATES PATENT AND TRADEMARK OFFICE

*Ed*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,575	10/09/2001	Tony M. Brewer	059182/P016US/10107827	2708

29053 7590 07/18/2005

DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.  
2200 ROSS AVENUE  
SUITE 2800  
DALLAS, TX 75201-2784

EXAMINER

PAYNE, DAVID C

ART UNIT PAPER NUMBER

2638

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/974,575

Applicant(s)

BREWER ET AL.

Examiner

David C. Payne

Art Unit

2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-9 and 11-27 is/are allowed.
- 6) ☒ Claim(s) 1 and 10 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2638

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1 and 10 have been considered but are moot in view of the new ground(s) of rejection.

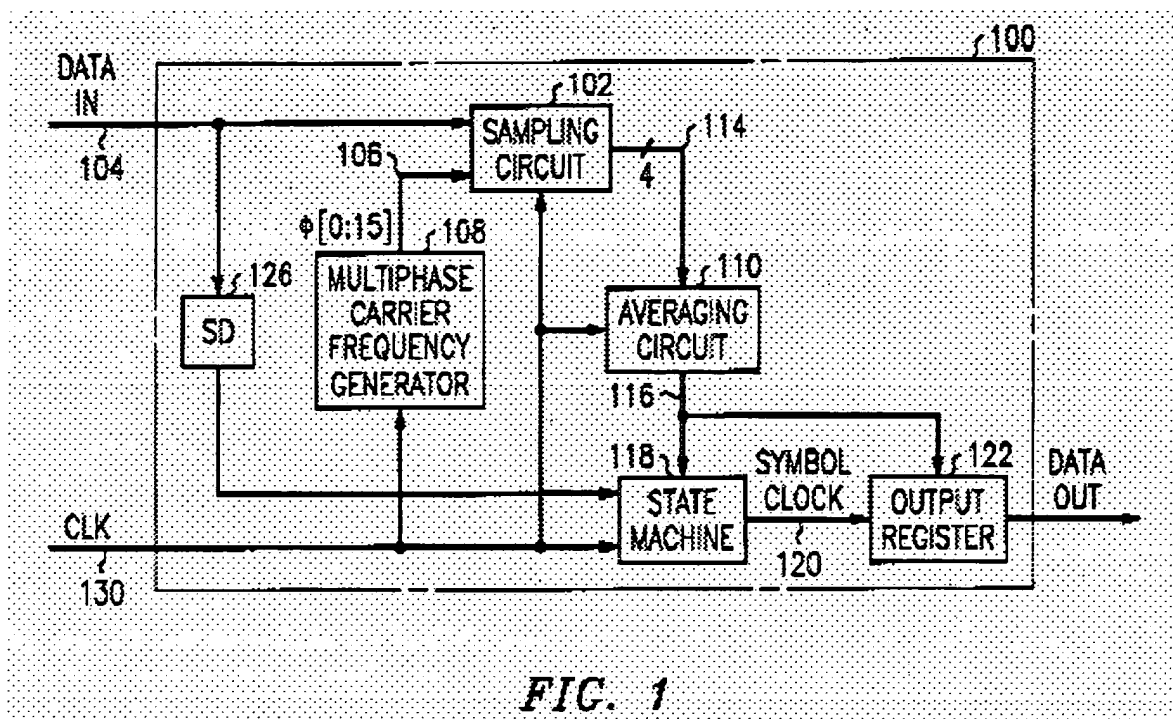
***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dwarakanath et al. US 5862187 A (Dwarakanath).

Re claim 1, Dwarakanath disclosed



MPSK demodulator wherein signal pulses are organized into bursts or frames of information packets, as illustrated in FIG. 6b. In this particular embodiment, each burst or frame includes a preamble portion containing 12 sets of signal pulses, corresponding to 12 symbols, and a payload portion containing 228 sets of signal pulses, corresponding to 228 symbols. There is an idle period of a given duration between consecutive frames. The preamble of each frame contains a group of predetermined symbols. For example, as illustrated in FIG. 6b, each preamble includes six symbols of 0-degree phase, followed by one symbol of 180-degree, followed by another 0-sup.0 phase symbol, followed by 180-degree phase symbol, followed by 0-degree phase symbol. The preamble ends with a 270-degree phase. Of course, any group of symbols may be employed. State machine 118 uses the preamble portion of each incoming frame to determine the proper symbol clock for retrieving the appropriate digital word that corresponds to the phase of symbols contained in the payload portion of each frame, as explained in more detail hereinafter, see e.g., col./lines: 7/10-35.

Art Unit: 2638

The averaging circuit 110 of FIG. 1 is used to smooth the resultant digital word from sampling circuit 102. FIG. 5 illustrates an embodiment of the circuit in accordance to the present invention. The circuit includes a comparator 150 coupled to a limiter 152. Limiter 152 may have one of many available design arrangements. For example, in one embodiment of the present invention, limiter 152 may be a logic circuit that generates "1" when it receives a positive signal, generates "-1" when it receives a negative signal, and generates "0" when it receives a zero signal. In this embodiment, the output signal of the limiter is passed to a 4-bit accumulator 154. The output signal of the accumulator is coupled to state machine 118 of FIG. 1. This output signal is also fed back to comparator 150. In operation, the averaging circuit receives a digital word,  $l(t)$ , from the sampling circuit. The comparator compares this digital word with a 4-bit accumulator word,  $o(t)$ , stored in accumulator 154. The resultant difference,  $e(t)$ , may be positive, negative or zero. This difference is passed through limiter 152 to allow a change,  $r(t)$ , equal to +1, -1, or 0 in the accumulator stage. The averaging circuit operates as a filter that smoothes the phase transition of incoming data, see e.g., col./lines: 6/5-25. Dwarakanath does not disclose that the threshold decision is made during substantially all of a payload portion of the data transmission, however, it would have been obvious to one of ordinary skill in the art at the time of invention that that averaging of the preamble would necessarily take place outside or receiving the preamble bits and before the start of the next burst preamble to give the circuit sufficient time to average the bits.

Re claim 10, Dwarakanath disclosed

Optical network unit 218 may contain an embodiment of a MPSK demodulator in accordance with the invention, such as a QPSK demodulator, which demodulates these signals in the passband frequency region without first shifting the signals into a baseband frequency region, see e.g., col./lines: 9/20-30.

Art Unit: 2638

***Allowable Subject Matter***

4. Claims 3-9, and 11-27 are allowed.
5. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
David C. Payne  
Patent Examiner  
AU 2638